

WHAT IS CLAIMED IS:

1. A plate-making method of a lithographic printing plate, which comprises exposing imagewise a photosensitive lithographic printing plate and developing the exposed photosensitive lithographic printing plate with a developing solution, wherein the photosensitive lithographic printing plate comprises an aluminum support and a photosensitive layer comprising a photosensitive composition of photopolymerization type, the composition containing: a compound having a nitrogen atom and an ethylenically unsaturated double bond; a photopolymerization initiator; and a polymer binder; and the developing solution contains (1) an inorganic alkali agent and (2) a nonionic surface active agent having a polyoxyalkylene ether group.

2. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the developing solution has a pH in a range of from 9 to 13.5 and an electric conductivity in a range of from 2 to 40 mS/cm.

3. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the nonionic surface active agent having a polyoxyalkylene ether group is a compound represented by the following formula (I):



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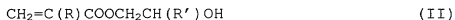
wherein, R^1 represents an alkyl group having from 3 to 15 carbon atoms which may be substituted, an aromatic hydrocarbon group having from 6 to 15 carbon atoms which may be substituted or an aromatic heterocyclic group having from 4 to 15 carbon atoms which may be substituted, wherein the substituent includes an alkyl group having from 1 to 20 carbon atoms, a halogen atom such as bromine, chlorine or iodine, an aromatic hydrocarbon group having from 6 to 15 carbon atoms, an aralkyl group having from 7 to 17 carbon atoms, an alkoxy group having from 1 to 20 carbon atoms, an alkoxy carbonyl group having from 2 to 20 carbon atoms and an acyl group having from 2 to 15 carbon atoms; R^2 represents an alkylene group having from 1 to 100 carbon atoms which may be substituted, wherein the substituent includes an alkyl group having from 1 to 20 carbon atoms and an aromatic hydrocarbon group having from 6 to 15 carbon atoms; and n represents an integer of from 1 to 100.

4. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein a content of the nonionic surface active agent having a polyoxyalkylene ether group is from 1 to 30% by weight in the developing solution.

5. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the compound

having a nitrogen atom and an ethylenically unsaturated double bond is a urethane series addition-polymerizable compound prepared by utilizing an addition reaction of an isocyanate with a hydroxy group.

6. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the compound having a nitrogen atom and an ethylenically unsaturated double bond is a vinyl urethane compound having at least two polymerizable vinyl groups in the molecule thereof obtained by subjecting addition of a vinyl monomer having a hydroxy group represented by formula (II) shown below with a polyisocyanate compound having at least two isocyanato groups in the molecule thereof:



wherein R and R', which may be the same or different, each represents a hydrogen atom or a methyl group.

7. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the compound having a nitrogen atom and an ethylenically unsaturated double bond is an amide of an unsaturated carboxylic acid with an aliphatic polyamine compound.

8. The plate-making method of a lithographic printing plate as claimed in Claim 1, wherein the compound having a nitrogen atom and an ethylenically unsaturated